

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/4/2010 has been entered.
2. Claims 32-48 are pending.

Response to Arguments

3. The 35 USC 112 rejections have been withdrawn in view of the entered amendments.
4. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. Specifically, the 35 USC 112 first and second paragraph rejections below.

Allowable Subject Matter

5. Claim 48 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Objections

6. The claims use the term "network topography" (e.g. claim 32) but should recite, "network topology" given the context and the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 32-33, 35-36, 38, 39, 40-41, 43-44, and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrow et al (US Pub. No. 2003/0005100), hereafter "Farrow," in view Barnard et al (US Pub. No. 2003/0005100), hereafter "Barnard," and in further view of the applicant's admitted prior art, hereafter "AAPA," with the citations referring to the applicant's specification.
9. As to claim 35, Farrow discloses a method of discovering that a particular network node has been connected to a computer network including (a) plural nodes, one of which is the particular node, and (b) a server arrangement

including a network portion and a discovery portion (Abstract), the method comprising:

responding to an establishment of a connection of the particular network node to the network, the network portion of the server arrangement receiving an access request from the particular node, wherein the particular node has an assigned address by a device in the network ([0036], lines 6-13; client has address assigned by DHCP server and issues a registration request);

in response to receiving the access request, the network portion authenticating the particular network node ([0036], lines 10-25; the binding server authenticates the client)

the network portion sending a discovery request and the assigned address of the particular network node to the discovery portion of the server arrangement after the network portion has successfully authenticated the particular network node ([0036], lines 35-43, binding server sends authenticated credentials to server manager to be stored in central database ("discovery portion"));

the discovery portion by storing the assigned address of the particular network node ([0036], lines 35-43, binding server sends authenticated credentials (credentials includes IP address, see lines 22-25) to server manager to be stored in central database ("discovery portion")).

But, Farrow does not explicitly disclose and initiating a discovery program that performs a discovery procedure for the particular network node;

the discovery procedure for the particular network node including determining status information about the particular node and the discovery procedure further including polling other nodes in the network to determine a network topography, the polled network topography including at least some of the other nodes to which the particular network node is connected, and the configuration of the particular network node.

However, Barnard discloses a network portion supplying a discovery request and the assigned address of a particular node to a discovery portion ([0074], lines 30-35, DHCP server supplies and IP address to discovery module ("discovery portion") after printing device ("particular node") has IP address (i.e. now the printer can communicate with other devices on the network and has access to the network);

the discovery portion responding to the discovery request applied to the discovery portion by the network portion by storing the assigned address of the particular node ([0077], lines 5-15, the IP address is provided so that SNMP may be used to communicate between network management device and printing device ("particular node")) and initiating a discovery program that performs a discovery procedure for the particular node in response to the supplying of the discovery request and the assigned address of the particular node to the discovery portion ([0077], lines 11-22, SNMP request (a function of "a discovery procedure") is sent out which retrieves information from the printing device via its IP address);

the discovery procedure for the particular network node including determining status information about the particular node and the configuration of the particular network node ([0077], lines 12-27).

But, Barnard and Farrow may not disclose the discovery procedure polling other nodes in the network to determine network topology. Rather, Barnard appears to poll nodes to determine topology a singular node at a time, subsequent to their discovery.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Barnard and Farrow in order to keep real time status information of active nodes in a network thereby allowing for easier management of said network.

However, AAPA discloses a discovery procedure including polling nodes in a network to determine network topology, and the polled network topology including at least some of the other nodes to which a particular node is connected, and the configuration of the particular node (Page 1, [0002], "the Open View Network Node Manager product are designed to discover network topology (i.e., a list of all network node in a domain, their type, and their connections), monitor the health of each network node, and report problems to the network administrator... The monitoring function of such a system is usually performed by a specialized computer program which periodically polls each network element and gathers data which is indicative of the network element's health"; page 2, [004] discloses retrieval of configuration information).

Therefore, it would have been obvious to combine the teachings of Barnard and Farrow with the applicant's admitted prior art (AAPA) in order to obtain a complete real-time topological representation of all nodes of the network, rather than simply polling one node at a time as disclosed in Barnard.

10. As to claims 32, 38, 39, 40, 43, and 46, they are rejected by a similar rationale to that set forth in claim 35's rejection.
11. As to claim 33, Barnard discloses the discovery portion receives a sequence of discovery requests including assigned addresses of various nodes of the network which have requested access to the network, the discovery portion storing the assigned addresses of the received request from the various nodes ([0077], lines 12-27 and Fig. 7).
12. As to claims 36, 41, 44, and 47, they are rejected by a similar rationale to that set forth in claim 33's rejection.
13. Claims 34, 37, 42, and 45, are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrow and Barnard and AAPA in further view of what was well known in the art as applied to claims 36, 41, 44, and 47, and in further view of what was well known in the art at the time of the invention.

14. As to claim 34, 37, 42, and 45, Farrow, Barnard, and AAPA discloses the invention substantially with regard to the parent claims 36, 41, 44, and 47, and but do not explicitly disclose the sequence of assigned addresses is stored as a stack that the discovery portion processes in first-in-first-out order. Barnard's does not go into specifics as to how the addresses are stored, just that they are.

Although Farrow and Barnard do not explicitly suggest the use of a first-in-first-out order (FIFO) stack, Official Notice is taken (MPEP 2144.01) that using a FIFO stack as a means to store data was a well-known practice at the time of the applicant's invention was made, which is deployed to more easily manage memory operations. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to take advantage of a known standard to modify the teachings Barnard in order to achieve such benefits.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Dailey whose telephone number is 571-270-1246. The examiner can normally be reached on Monday thru Friday; 9:00am - 5:00pm.
16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thu Nguyen can be reached on 571-272-6967. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas J Dailey/
Examiner, Art Unit 2452